

OPTIMISING FIELD DEVELOPMENT USING NOVEL COMPLETIONS AND SMART WELL TECHNOLOGY

4-7 November 2001
The Holiday Lodge
Bandar Seri Begawan, Brunei



An SPE Applied Technology Workshop



A limited attendance Applied Technology Workshop (ATW) organised for multidisciplinary professionals in the oil and gas industry. The comprehensive, 3-day Workshop focusing on major issues associated with novel completions and smart-well technology on field development, provides an excellent networking opportunities for technology exchange, as well as sharing best practices that can be considered for immediate application and to current projects.

WORKSHOP FOCUS:

This workshop features three (3) types of sessions focussing on (i) business impact, (ii) managing risk/uncertainty and (iii) skills and resources. The business impact sessions explore ways and means to improve value drivers by applying novel completions and intelligent wells i.e. (1) to reduce CAPEX/OPEX, (2) increase reserves and (3) increase/accelerate/extend production. Managing risk and uncertainty sessions aim to understand, quantify and develop means to mitigate risk to accelerate the pace of new well technologies. The skills and resources sessions seek to raise the importance of new organisational behaviour specifically in addressing skills integration, training and competency to promote rapid application of novel completions and smart well technology.

WHO SHOULD ATTEND:

Reservoir engineers, simulation engineers, development/production geologists, petrophysicists, surveillance engineers, petroleum engineers, equity determination engineers, geoscientists, production operation engineers, facilities engineers, petroleum economists, and asset managers who are interested in applying the relevant technologies to the field development process, should consider attending.

Registration will be limited, with participants selected by the steering committee, to ensure a highly motivated, and experienced audience.

STEERING COMMITTEE:

Alias bin Hj. Mohd Yusof (Co-Chairperson)
Government of Brunei, Petroleum Unit, Brunei

Scott H. Aitken (Co-Chairperson)
Weatherford Completion Systems, Dubai

Hj. Zainal Abidin bin Hj. Mohd Ali (Co-Chairperson)
Brunei Shell Petroleum Co. Sdn. Bhd., Brunei

Nazrin Banu Sheikh Sajjad Ahmad
PETRONAS Carigali Sdn. Bhd., Malaysia

Philip Bogaert
Sarawak Shell Bhd., Malaysia

Kamaludin bin Bungsu
Brunei Shell Petroleum Co., Brunei

Haji Rani Hj Md. Yusof
Government of Brunei, Petroleum Unit, Brunei

Siv Kailasapathy
Schlumberger Technical Services Inc., Indonesia

David J. Kirk
Woodside Energy Ltd., Australia

Andy Liew
Baker Oil Tools, Singapore

Sharifudin Salahudin
Halliburton Energy Services, Brunei

Return Your Registration Today !

GENERAL INFORMATION

FORMAT:

This Workshop offers an informal interchange of technical information and ideas. Provocative presentations, interactive group discussions, and multidisciplinary team approaches will be used to illustrate the efficacy of the field development process using the novel completions and smart well technology.

DOCUMENTATION:

Proceedings will not be published, therefore, formal papers and handouts are not expected from speakers. Work in progress, new ideas, and interesting projects are sought. Professionally-prepared visual aids are not required; handwritten viewgraphs are entirely acceptable. Note-taking by individual attendees is encouraged. However, to ensure free and open discussions, no formal records will be kept. The committee will select one or more persons to make a full report containing the highlights of the Workshop discussions. This report will be distributed to attendees after the Workshop concludes, and may be published on the SPE Web Site and Journal of Petroleum Technology (JPT).

CONTINUING EDUCATION UNITS:

The Society of Petroleum Engineers (SPE), through SPE Professional Development, will award Continuing Education Units (CEU) for participation and completion of SPE Applied Technology Workshops, short courses, distance learning programmes and sanctioned learning activities. One CEU equals ten contact hours of participation in SPE continuing education activities. A permanent record of a participant's involvement and awarding of CEUs will be maintained by SPE. SPE will provide a copy of the participant's record upon request.

CERTIFICATE:

All attendees will receive a certificate indicating the earned SPE CEU, for participation and completion of SPE Applied Technology Workshop programmes.

REGISTRATION FEE:

Residential

- US\$1,650.00 per person on/before 31 August 2001
- US\$1,750.00 per person after 31 August 2001

Fee includes the following:

- Three-day registration fee for all Workshop sessions;
- Three nights accommodation based on single occupancy with arrival on Sunday, 4 November 2001 and departure on Wednesday, 7 November 2001;
- Welcome reception followed by dinner (Sunday Evening);
- Three meals per day except Monday; and
- Two coffee-breaks daily.

Non-Residential

- US\$1,250.00 per person on/before 31 August 2001
- US\$1,350.00 per person after 31 August 2001

Fee includes the following:

- Three-day registration fee for all Workshop sessions;
- Welcome reception followed by dinner (Sunday Evening);
- Three meals per day except Monday; and
- Two coffee-breaks daily.

POLICY:

- Full fixed fee is charged regardless of the length of time that the registrant attends the Workshop.
- Fixed fee cannot be prorated or reduced for anyone (Workshop chairpersons, committee members, speakers, discussion leaders, students and registrants).
- Workshop is designed to be fully residential. Both residential and non-residential registrants/ attendees are expected to attend all Workshop sessions and are not permitted to attend on a partial basis.

VENUE:

The Holiday Lodge, Lot 27192 Kampung Jerudong, Jalan Pulau Kubu, BG1128, Brunei Darussalam, Tel: 673.2.611618, Fax: 673.2.611619. Details of accommodation and other information will be forwarded to registrants in September 2001.

ATTENDEES' INFORMATION:

General/Travel/ Hotel information will be sent to registrants with the attendee package prior to the scheduled Workshop in September 2001.

TRANSPORTATION:

All delegates are advised to book their international/ domestic airline tickets early from their country/city to Bandar Seri Begawan, Brunei. Further detailed transportation information will be available and included in the attendee package, which will be sent to registrants in September 2001.

DRESS CODE:

Casual clothing (i.e., shirts, shorts, and slacks) is recommended. The Workshop atmosphere is informal.

PRELIMINARY DAILY ACTIVITIES AND TECHNICAL AGENDA

Note: While every attempt will be made to adhere to the schedule, the status/availabilities of session topics, discussion leaders and moderators are subject to change.

Sunday, 4 November 2001

- 9:00 a.m. - 12:30 p.m. Steering Committee Meeting
- 2:00 p.m. Hotel Check-in
- 4:30 p.m. - 7:00 p.m. SPE Registration
- 4:00 p.m. - 5:00 p.m. Posters Set-up
- 5:00 p.m. - 6:00 p.m. Discussion Leaders Planning Meeting
- 7:30 p.m. - 9:30 p.m. Welcome Reception(Ice Breaker)/Dinner

Monday, 5 November 2001

- 7:00 a.m. - 8:00 a.m. Breakfast
- 8:00 a.m. - 9:00 a.m. **Session 1: Introduction/Opening & Keynote Addresses**
- 9:00 a.m. - 9:30 a.m. Group Photo/Coffee Break
- 9:30 a.m. - 12:30 p.m. **Session 2: Business impact: Reducing CAPEX/OPEX**
 - **Novel Well Completion**
 - Number of Wells
 - Intervention Costs
 - Cost / Well
 - Size
 - Multi-Purpose Well
 - More Wells / Slots
 - Well Abandonment
 - Extended Reach
 - Multilateral/Multiphase Well
 - **Optimal Facilities**
 - Re-use of Facilities
 - Unmanned
 - Minimal Infrastructure
 - Remote / Subsea Infrastructure
- 12:30 p.m. - 1:30 p.m. Lunch
- 1:30 p.m. - 5:45 p.m. **Session 3: Business Impact: Increase Ultimate Recovery**
 - **SMART Well, Data Acquisition to Understand Reservoir Behaviour**
 - Real Time Pressure and Temperature Monitoring
 - Detection of By-Passed Oil
 - Flow Contribution along the Wellbore
 - Sand Monitoring
 - **SMART Wells to Control Reservoir Behaviour**
 - Modifying the Inflow Profile
 - Zonal Selectivity
- 3:30 p.m. - 3:45 p.m. Coffee Break
- 5:45 p.m. - 6:45 p.m. **Poster Session**
- Evening Free (Dinner on your own)

Tuesday, 6 November 2001

- 7:00 a.m. - 8:00 a.m. Breakfast
- 8:00 a.m. - 11:15 a.m. **Session 4: Business Impact: Accelerate & Facilitate Production**
 - **Completion Efficiency/Skin**
 - Stimulation
 - Impairment
 - Sand Control
 - **Novel Artificial Lift**
 - Coil Tubing
 - ESP
 - Velocity String
 - Hybrid Systems
- 10:00 a.m. - 10:15 a.m. Coffee Break
- 11:15 a.m. - 1:15 p.m. **Session 5: Business Impact: Accelerate & Facilitate Production (Cont'd)**
 - **Downhole Facilities**
 - Downhole Separation
 - Downhole Compression
 - Treating Contamination Downhole
- 1:15 p.m. - 2:15 p.m. Lunch
- 2:15 p.m. - 3:30 p.m. **Breakout Session**
- 3:30 p.m. - 7:00 p.m. Rest & Recreation
- 7:00 p.m. - 8:30 p.m. Dinner
- 8:30 p.m. Coffee
- 8:30 p.m. - 9:30 p.m. **Breakout Session Presentation**

Wednesday, 7 November 2001

7:00 a.m. - 8:00 a.m. Breakfast

8:00 a.m. - 11:15 a.m. **Session 6: Managing Risk & Uncertainty**

- **Identifying the Risk Specific to Novel Completions and SMART Wells**
- **Quantifying the Risk**
 - QRA
 - Failure Mode Analysis
 - Reliability Statistics

■ **Mitigating the Risk**

- Planning
- Testing
- Redundancy
- Contingency
- Design

10:30 a.m. - 10:45 a.m. Coffee Break

11:15 a.m. - 1:15 p.m. **Session 7: Skills & Resources to Realise The Value**

■ **Challenges**

- Expressing the Economic Value of New Technology
- Common Language for All Parties
- Integrating the Technologies
- Training & Competency

■ **Techniques**

- Peer Review & Knowledge Sharing Networks
- Switching Curve Analysis
- Mass Application
- Technology Transfer
- Organising & Alliancing Towards Common Goal
- Reward & Recognition

1:15 p.m. - 2:15 p.m. Lunch

1:45 p.m. Coffee

2:15 p.m. - 3:00 p.m. **Summary & Wrap-Up**

3:30 p.m. Hotel Check-Out

POSTER SOLICITATION AND INFORMATION

As an adjunct to the scheduled presentations, the steering committee will incorporate a poster presentation session in this Workshop. The poster session will allow participants to present case studies and additional new ideas to those interested. The poster session is scheduled from 5:45 p.m. to 6:45 p.m. on Monday, 5 November 2001.

We encourage all participants to prepare and bring a poster presentation to the Workshop. Posters will be on display for the entire Workshop period. As with the session discussion, the poster session will be conducted off the record, to encourage frank discussion and presentation of unconfirmed or partial results. Presentation on both research and field experience are solicited.

SPE WORKSHOPS AND COMMERCIALISM

The Workshop Steering Committee has a stated policy against the use of commercial trade names, company logos, or language that is commercial in tone. **Note that the Workshop Steering Committee will review all posters prior to display, and reserves the right to refuse permission to display any poster considered by the committee to be commercial in nature.**

Each poster presenter will be provided an appropriate 1.2 x 2 metre area for displaying the poster. The poster display should be designed for eye-level viewing and made from simple graphic materials that can be taped on the wall. The poster display may include printed materials, tables, graphs, photographs, or illustrations. All the materials should be of sufficient size so as to be easily read and should be prepared in a manner that will accomplish the following:

- Identify topic by title, presenter, affiliation, address, and phone number.
- Include a brief abstract that summarises the technical challenge to be addressed.
- Make the display as self-explanatory as possible.
- Place the information sequentially, beginning with the main idea or problem, method used, result, etc. (Draw a plan keeping the size and number of illustrations in mind).
- Keep illustrations simple by using charts, graphs, drawings, and pictures to create interest and visually explain a point.
- Use contrasting colours.
- Use large print for narrative materials. (We suggest a minimum of 24 points or 3" high letters for the title).

Whether or not you elect to participate in the poster session or have been invited by the Steering Committee to present during one of the regular sessions, please come prepared to participate actively in the discussions. Open interaction will be encouraged. With the full cooperation and participation of all attendees we anticipate an outstanding Workshop.

RETURN THE COMPLETED POSTER PARTICIPATION FORM BY 31 AUGUST 2001